

Mulesoft Anypoint Platform

8/8/2019

Ever wondered how these worked?

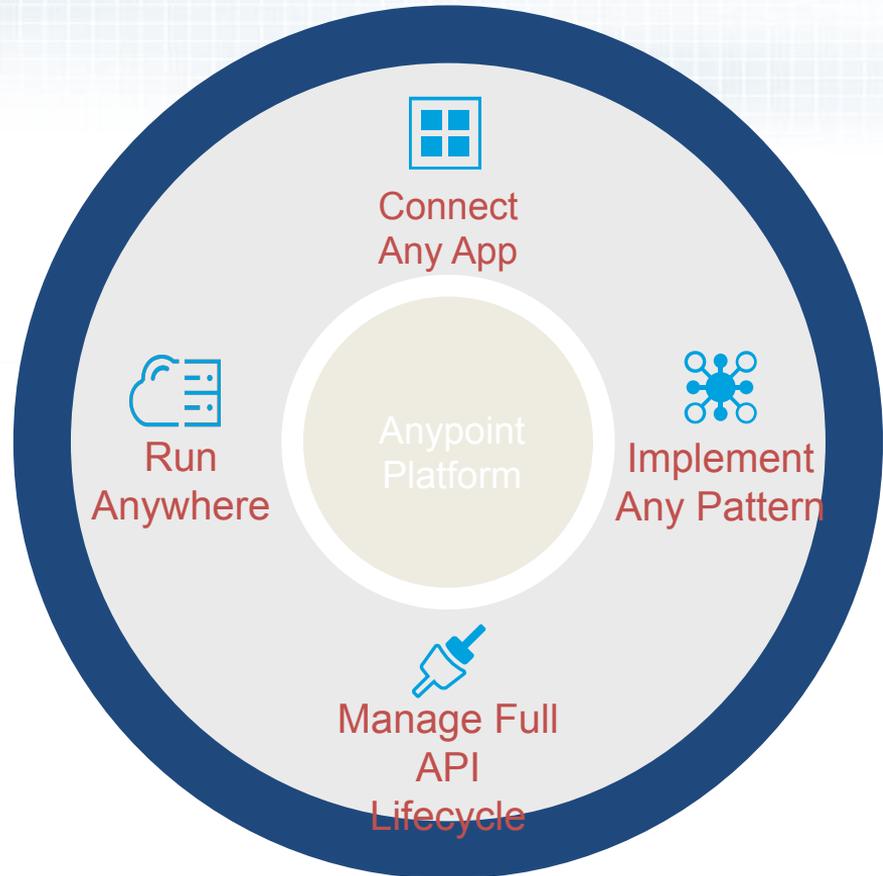


MuleSoft Anypoint Platform



One Unified Platform

- Connect and Integrate
- Complete API Management
- Cloud, Hybrid or On-Premise

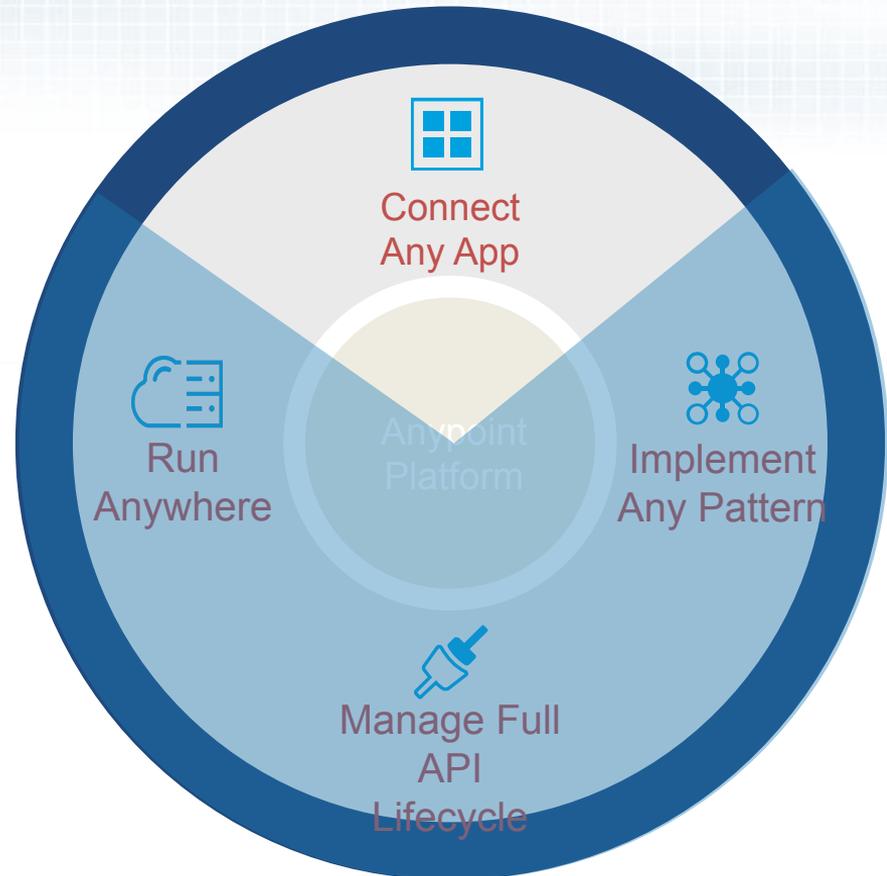


MuleSoft Anypoint Platform

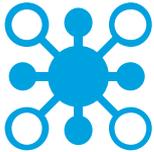


Connect Applications - Data - Devices

- SaaS
- Legacy
- Mobile
- Microservices
- IOT
- Big Data

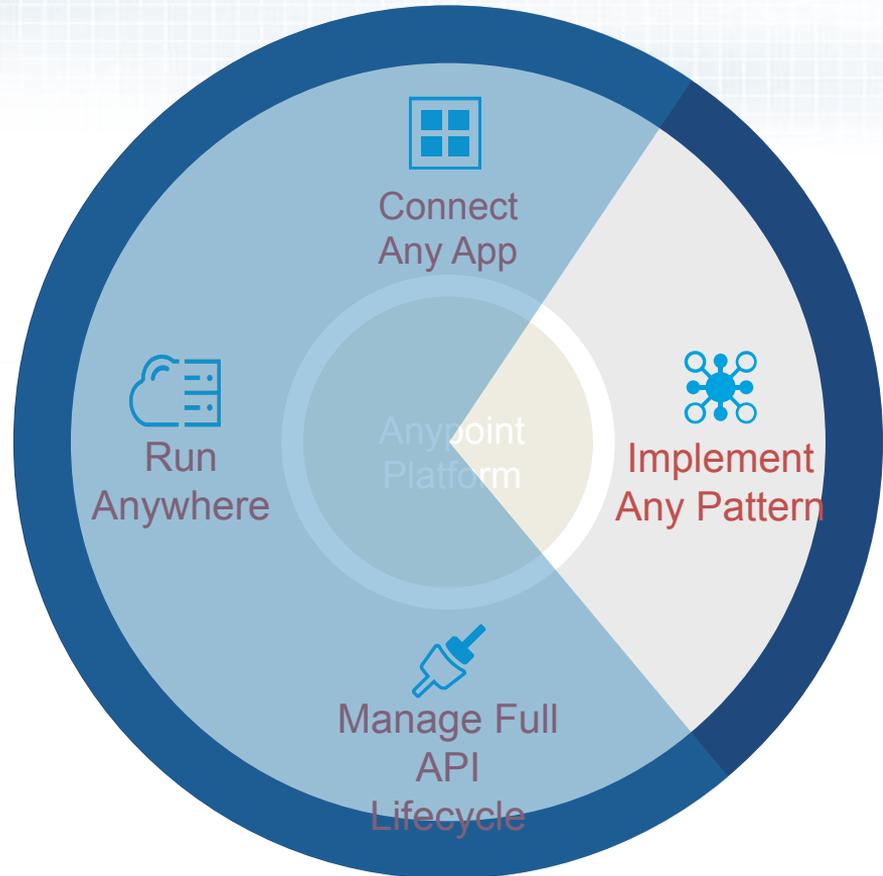


MuleSoft Anypoint Platform



Implement Any Integration Pattern

- API-Led
- ETL/ELT
- Batch
- ESB
- SOA
- Streaming
- Pub/Sub

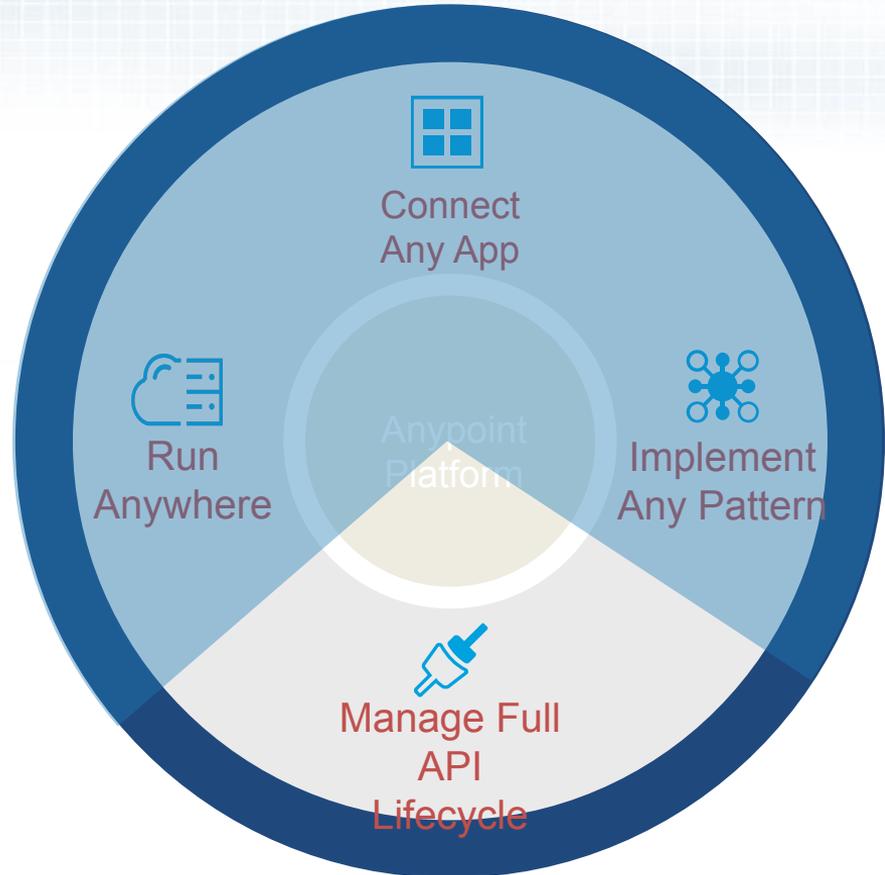


MuleSoft Anypoint Platform

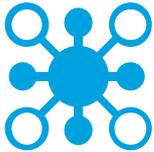


Manage Full API Life-Cycle

- Engage
- Design
- Develop
- Test
- Deploy
- Operate
- Monitor
- Secure

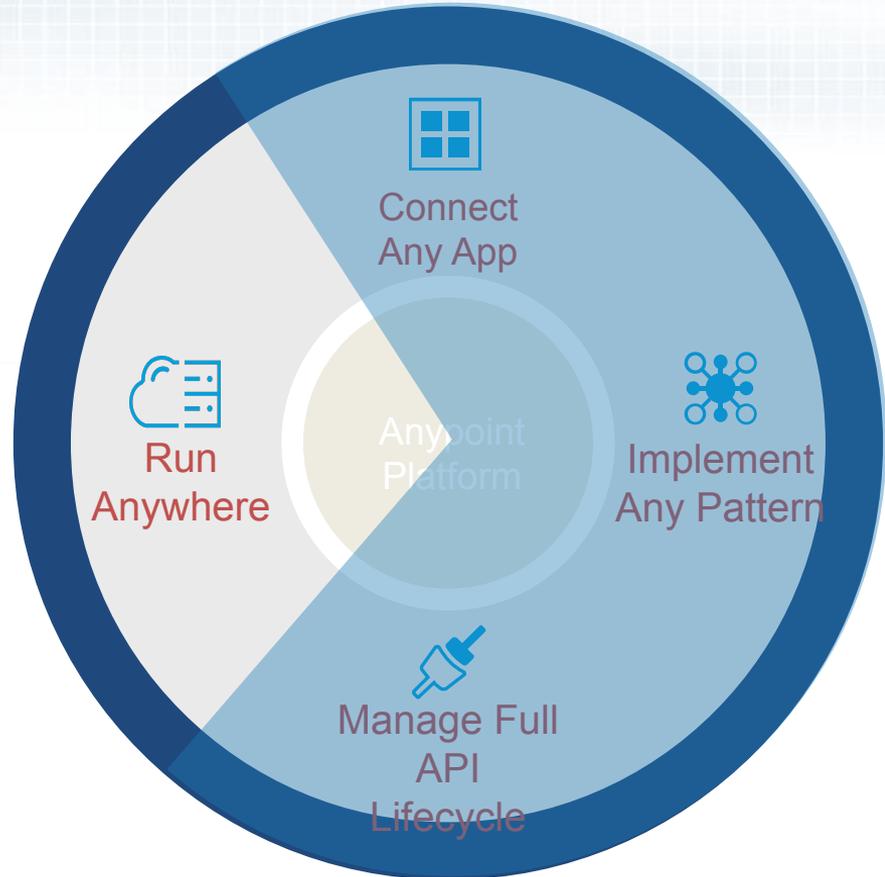


MuleSoft Anypoint Platform

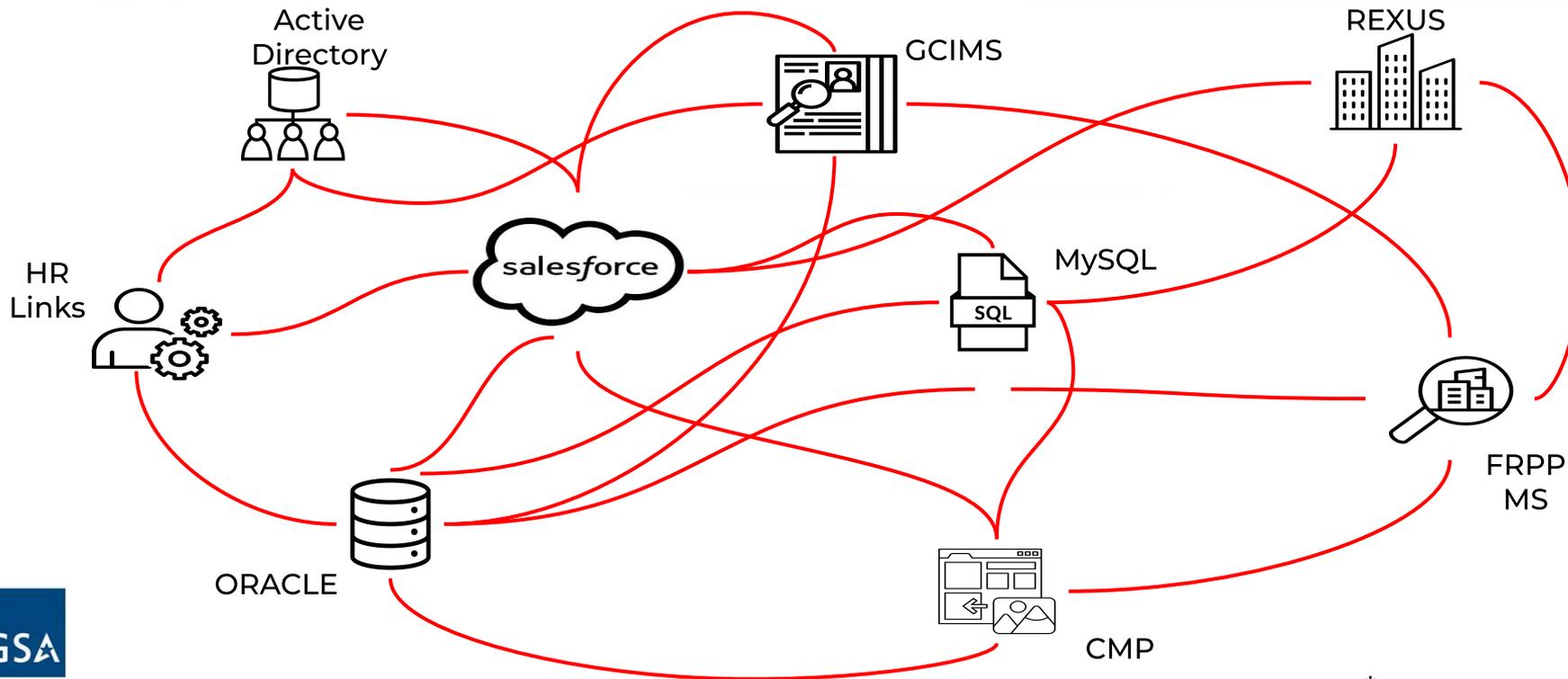


Run Anywhere

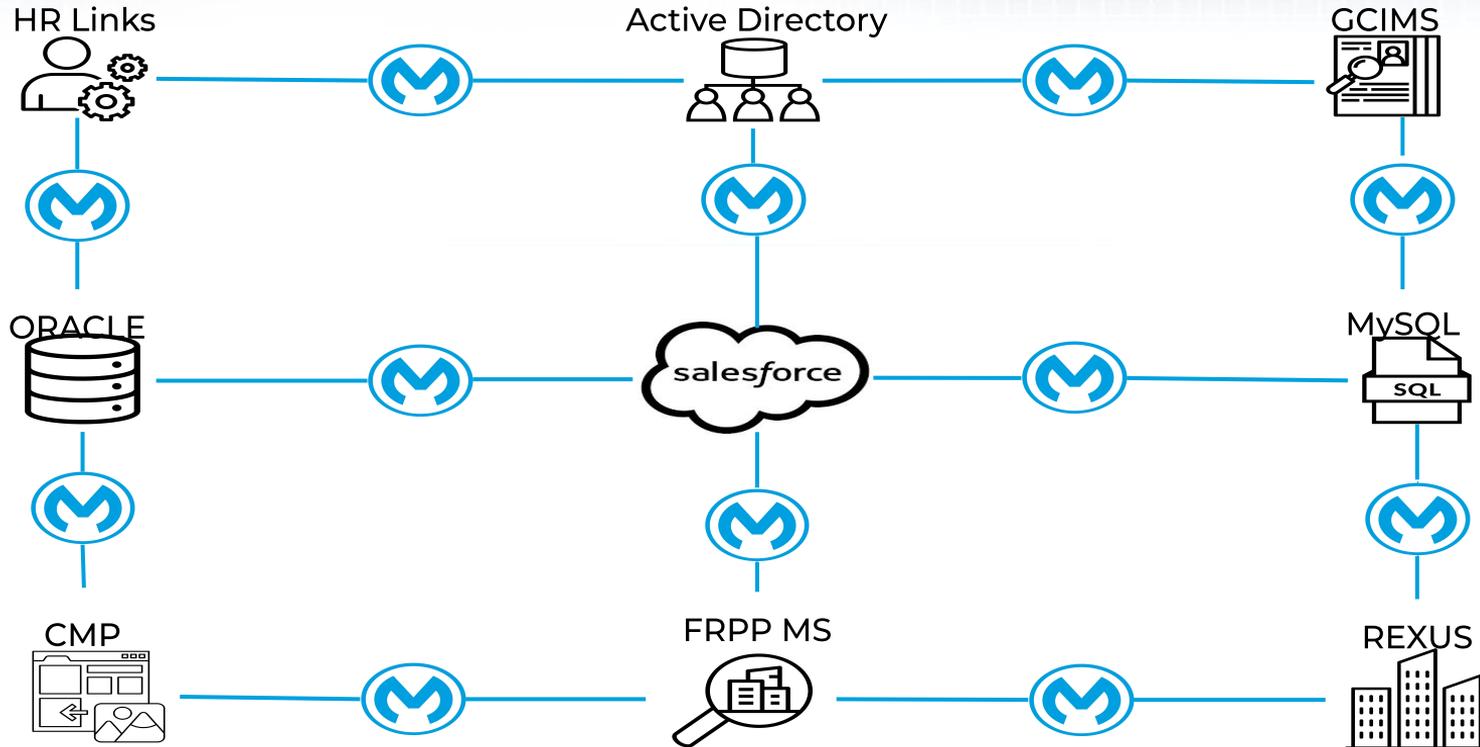
- iPaaS
- Multi-cloud
- Hybrid
- On-premise



Tightly Coupled Point-to-Point Landscape



Application Network



How do we integrate across systems?



Customer



Databases



FTP, Files



Web services



On-prem Apps



Social Apps



SaaS Apps



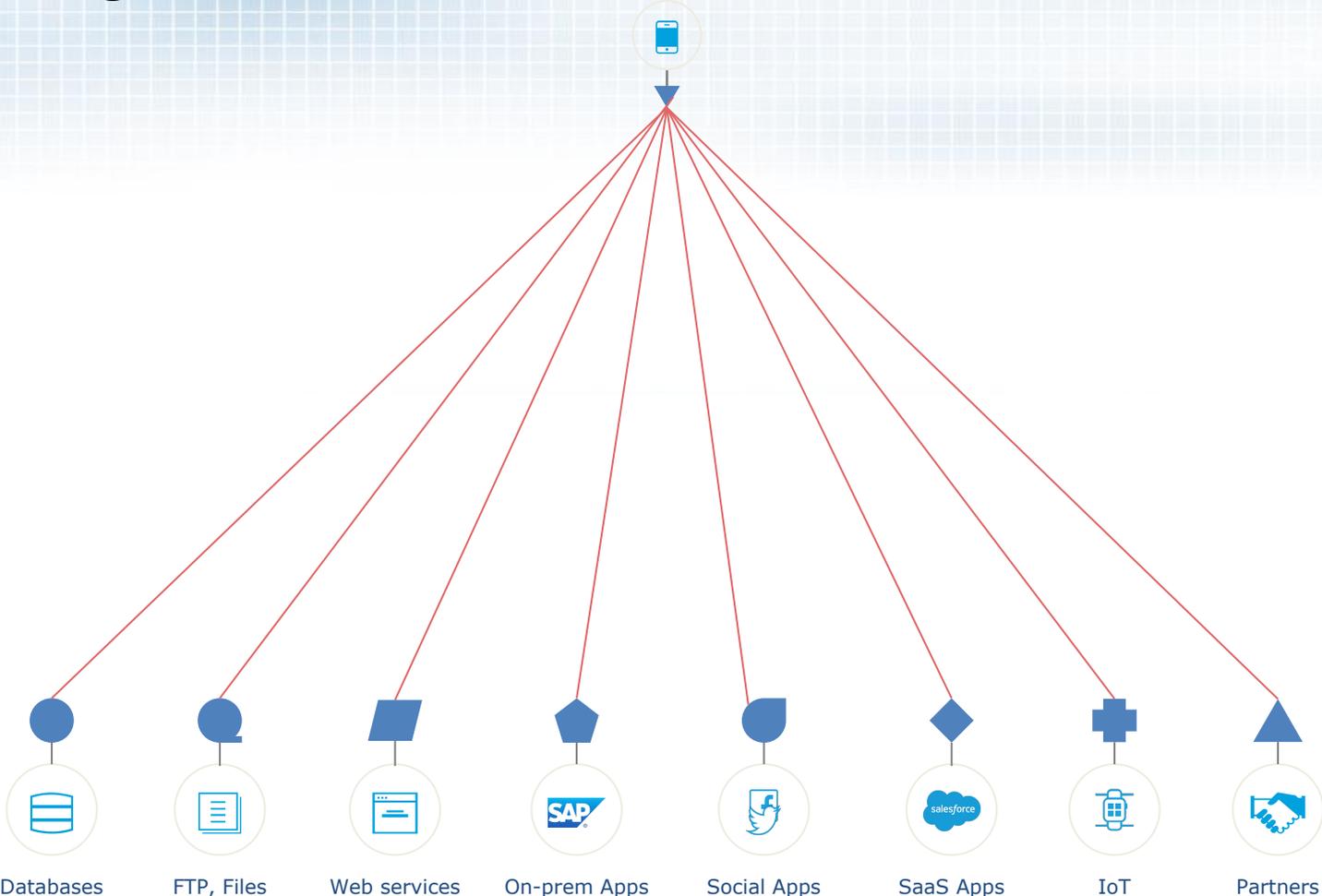
IoT



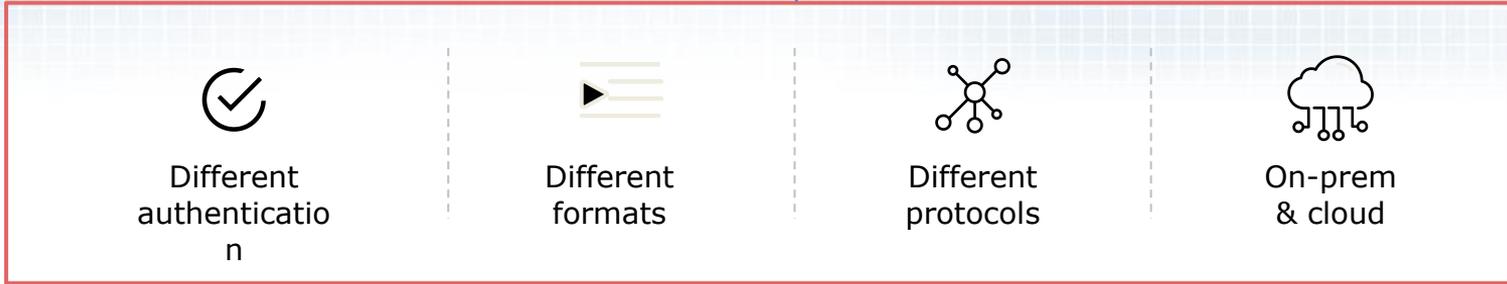
Partners



Direct Integrations



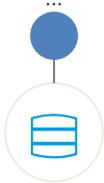
This gets complicated!



DB Auth

**JDBC
SQL**

Customer
name,
billTo-street
...



Databases



FTP, Files



Web services



SAP

**JCO
BAPI**

Customer
Name,
STRAS
...



On-prem Apps



Social Apps



OAuth

**HTTP
APIs**

Account
Name,
BillingStreet
...



SaaS Apps



IoT



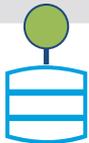
Partners

Unlock core systems through consistent APIs



Core assets exposed via a **consistent** contract

System APIs



Databases



FTP, Files



Web services



SaaS Apps



On-prem Apps



Social Apps



IoT



Partners

Application Owner

Accessibility & Ownership

GSA

Expose reusable APIs for agility



LoB Dev

Application Owner

Accessibility & Ownership

GSA



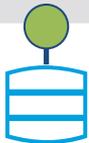
Agility and new **value creation**

Process APIs



Core assets exposed via a **consistent** contract

System APIs



Databases



FTP, Files



Web services



SaaS Apps



On-prem Apps



Social Apps



IoT



Partners

Enable flexibility and innovation



Innovation and digital products

Experience APIs

Innovation Teams



Agility and new **value creation**

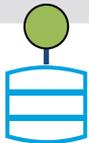
Process APIs

LoB Dev



Core assets exposed via a **consistent** contract

System APIs



Databases



FTP, Files



Web services



SaaS Apps



On-prem Apps



Social Apps



IoT

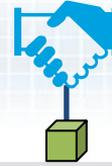


Partners

Accessibility & Ownership

GSA

Quickly onboard new systems and modernize legacy applications



Innovation
Teams

Innovation and digital products

**Experience
APIs**



LoB Dev

Agility and new **value creation**

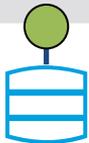
Process
APIs



Application
Owner

Core assets exposed via a **consistent** contract

System
APIs



Databases



FTP, Files



Web services



SaaS Apps



On-prem
Apps



Social
Apps



IoT



Partners

Accessibility
& Ownership

GSA

Anypoint API Designer

The screenshot displays the Anypoint API Designer interface. On the left, a file explorer shows a project structure with folders for 'examples' and 'exchange_modules'. The main editor area shows a RAML specification for 'Salesforce Query sAPI' with version 1.0. The specification includes a baseUri, title, version, and several endpoints: /campaigns, /opportunities, and /opportunities. The /opportunities endpoint is expanded to show a GET method with a response body containing an application/json object. On the right, the 'API summary' panel shows a list of endpoints with their respective HTTP methods (GET) and status indicators.

```
1 #!RAML 1.0
2 baseUri: https://mocksvc.mulesoft.com/mocks/f9172cde-1fe2-446a-a762-56543ac66add # baseUri:
   https://mocksvc.mulesoft.com/mocks/eb28943c-65e3-4113-b15c-d3d5043e65e0
3 title: Salesforce Query sAPI
4 version: 1.0
5
6 uses:
7   Traits: exchange_modules/0abe88f2-bbef-4d9b-af68-f72abd7d5113/traits/1.0.11/traits.raml
8   SalesObjects:
   exchange_modules/0abe88f2-bbef-4d9b-af68-f72abd7d5113/salesforce-objects-datatype/1.0.
   0/salesforceobjects-datatype.raml
9
10
11 /campaigns:
12   description: Campaigns
13   get:
14     is: [Traits.client_id, Traits.pageable, Traits.searchable, Traits.sortable]
15     responses:
16       200:
17         body:
18           application/json:
19             example: !include examples/campaigns.json
20 /opportunities:
21   description: Opportunities
22   get:
23     is: [Traits.client_id, Traits.pageable, Traits.searchable, Traits.sortable]
24     responses:
25       200:
26         body:
27           application/json:
28             example: !include examples/opportunities.json
29 /{opportunity_id}:
30   description: Get one opportunity by id
31
```

Rapidly Design and Simulate APIs

- Design-First Approach
- Open API Standard
- Suggestive Modeling
- API Test Console
- Auto Documentation

Anypoint Studio

The screenshot displays the Anypoint Studio interface with several key components:

- Package Explorer:** Shows a hierarchical view of project packages, including 'example-api' and 'example-api-test-suite'.
- Message Flow (example-api):** A flow diagram with three steps: 'Logger Payload', 'Set Payload', and 'Transform Message JSON to XML'.
- Message Flow (example-api-test-suite):** A flow diagram with three steps: 'Flow Reference: Flow-ref to get: test-resource: example-api-config', 'Transform Message', and 'Verify call'.
- Mule Palette:** A search bar and a list of connectors and modules such as 'Logger (Core)', 'Listener (HTTP)', 'Request (HTTP)', 'Transform Message (Core)', 'Set Payload (Core)', and 'Flow Reference (Core)'.
- Outline / MUnit:** A tree view showing the structure of the message flow, including 'Payload: Object' and 'Object'.
- Data Mapping:** A visual mapping tool showing the relationship between the 'Payload: Object' (with fields like order, product, item_amount, payment, buyer) and the 'Object' (with fields like address1, city, country, email, name, postal code, stateOrProvince).
- Input/Output/Payload:** A code editor showing the JSON output of the flow, including headers like 'idw: 2.0' and 'output: application/json', and a detailed JSON body with nested objects for buyer and order information.

Rapidly Build APIs and Integrations

- Easy Drag & Drop
- Low Code / No Code
- OOB Connectors
- OOB Patterns & Flow Controls
- Develop, Test, and Deploy

DataWeave

Transform Message x Problems

Input

▼Payload : Xml<orders>

- ▼item : List<Xml<orders>>
 - type : String
 - price : Double
 - ▶properties : Xml<order>
- ▼Flow Variables
 - ▼currencies : Json
 - ▶USD : List<Json>
- Session Variables
- Inbound Properties
- ▼Outbound Properties
 - MULE_ENCODING : String
- Record Variables

Output

▼Json

- ▼books : List<Json>
 - title : String
 - authors : List<String>
- ▼prices : List<Json>
 - currency : String
 - price : Integer
- type : String

Payload ▼

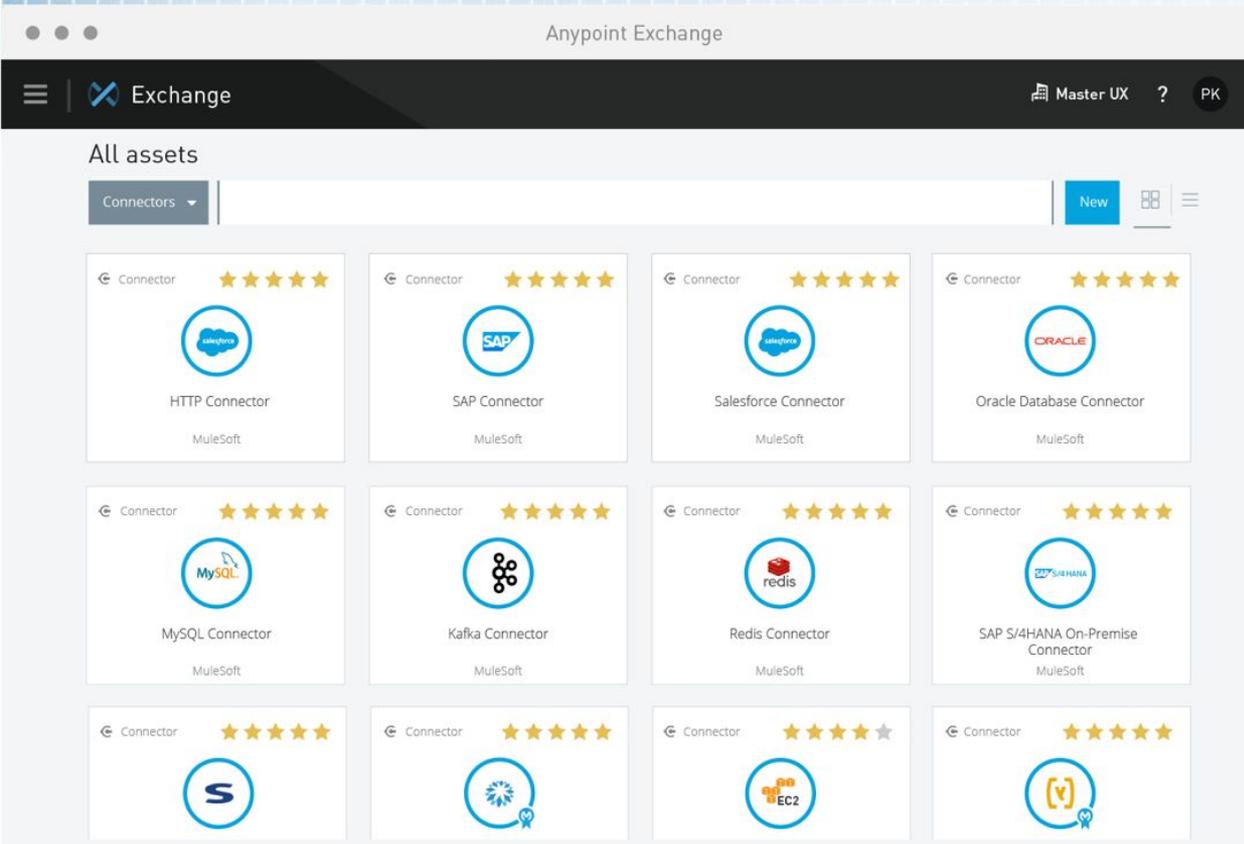
```
1 %dw 1.0
2 %output application/json
3 ---
4 {
5     books: payload.orders.*
6     title: item.properties
7     authors: item.properties
8     prices: flowVars.currencies
9     currency: USD.currency
10    price: item.price
11 }
12 }
13 }
```

Context | payload

Map and Transform Data from Source to Target

- Easy Drag & Drop
- Senses Metadata of Source and Target
- Robust & Deep Transformation Capabilities

Anypoint Exchange



Publish APIs to a Central Catalog for Discovery & Reuse

- Ratings
- Collaboration
- Versions
- API Dependencies
- API Metadata
- Documentation

Anypoint Exchange - API Portals

The screenshot shows the Anypoint Exchange interface for the "American Flight API - Reference API | v2.0". The page includes a navigation sidebar on the left with options like "Assets list", "American Flight-Reference API", "FAQs", "Get started", "API summary", "Types", "Resources", and "API instances". The main content area features a header with a home icon, the API name, version, and a star rating. Below this is a description: "You can use this API to incorporate American Airlines US domestic flight information in your app." and "This API enables you to work with American Airlines flight schedule information about domestic flights within the United States." An illustration depicts a user asking "Hey Google, get me details for American Flight 1386" to a search interface, which returns the result: "American Flight 1386 departs from Seattle for San Francisco on August 20 on a Boeing 737. The ticket costs \$400." A code block shows a JSON response with fields like "id", "code", "price", "departure", "arrival", "airline", "type", and "retailer". The right sidebar contains an "Overview" section with details: "Type: REST API", "Created By: Anton Kravchenko", and "Published On: Oct 18, 2017". Below this is a table for "Asset versions for v1.0" with one entry: "Version: 1.0.1", "Instances: Mocking Service". A "Tags" section at the bottom of the sidebar has a "+ Add a tag" button.

Assets list

Exchange

Demo Organization ? PK

Share Download Edit

American Flight API - Reference API | v2.0

★★★★★ (0 reviews) [Rate and review](#)

You can use this API to incorporate American Airlines US domestic flight information in your app.

This API enables you to work with American Airlines flight schedule information about domestic flights within the United States.

```
{
  "id": "1386",
  "code": "EK086",
  "price": 400,
  "departure": "2017-08-20",
  "arrival": "2017-08-20",
  "airline": "AA",
  "type": "Boeing 737",
  "retailer": "AA"
}
```

Hey Google, get me details for American Flight 1386.

American Flight 1386 departs from Seattle for San Francisco on August 20 on a Boeing 737. The ticket costs \$400.

Overview

This API provides schedule and flight related information for all American Airlines

Overview

Type REST API

Created By Anton Kravchenko

Published On Oct 18, 2017

Asset versions for v1.0

Version	Instances
1.0.1	Mocking Service

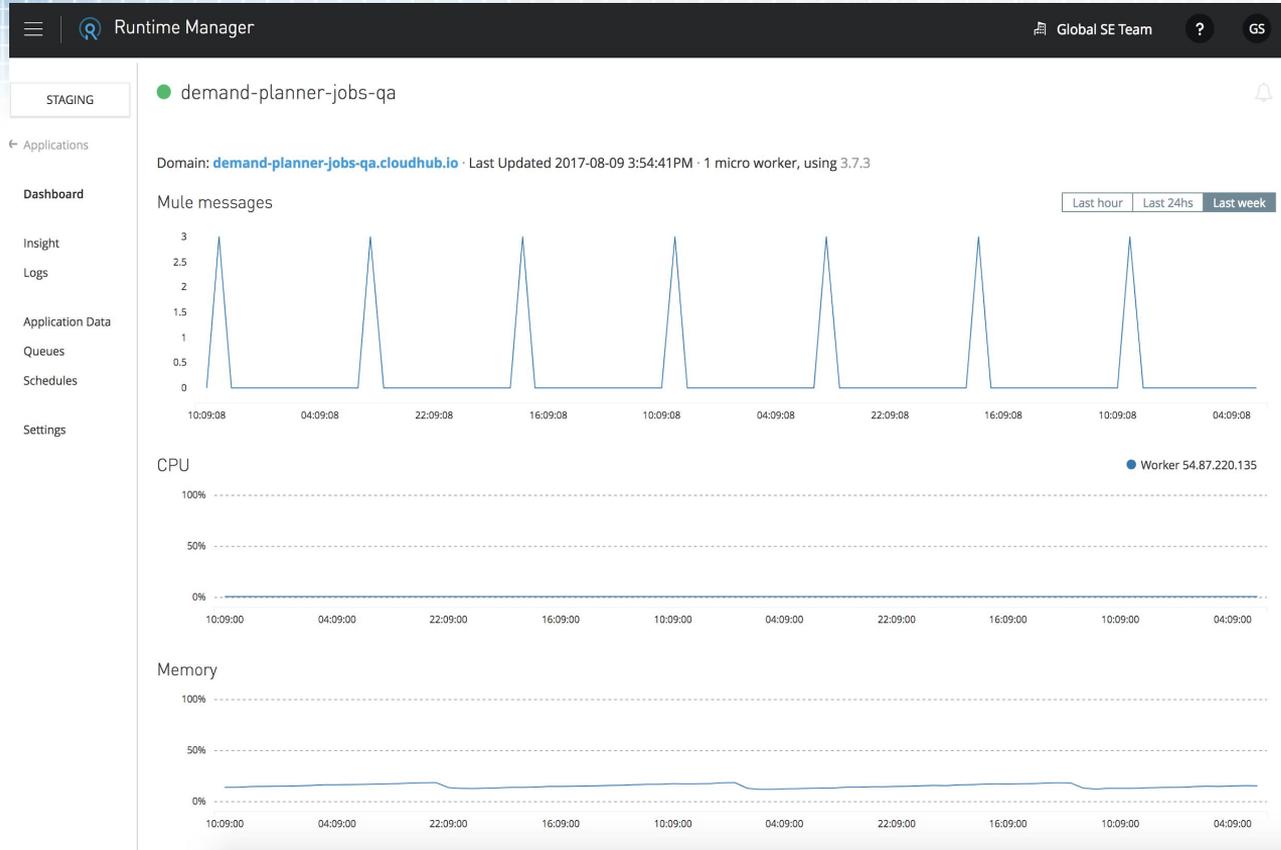
Tags

+ Add a tag

Create Custom Portals for Developers to understand your APIs

- Documentation
- API Resources
- Ratings
- Comments
- Dependencies
- Test Console

Runtime Manager



Deploy and manage APIs and integrations in the cloud or on-premises.

- Automate Deployment
- Log Analysis
- Insights
- Cloud/On-Prem/Hybrid Deployment strategies

API Manager

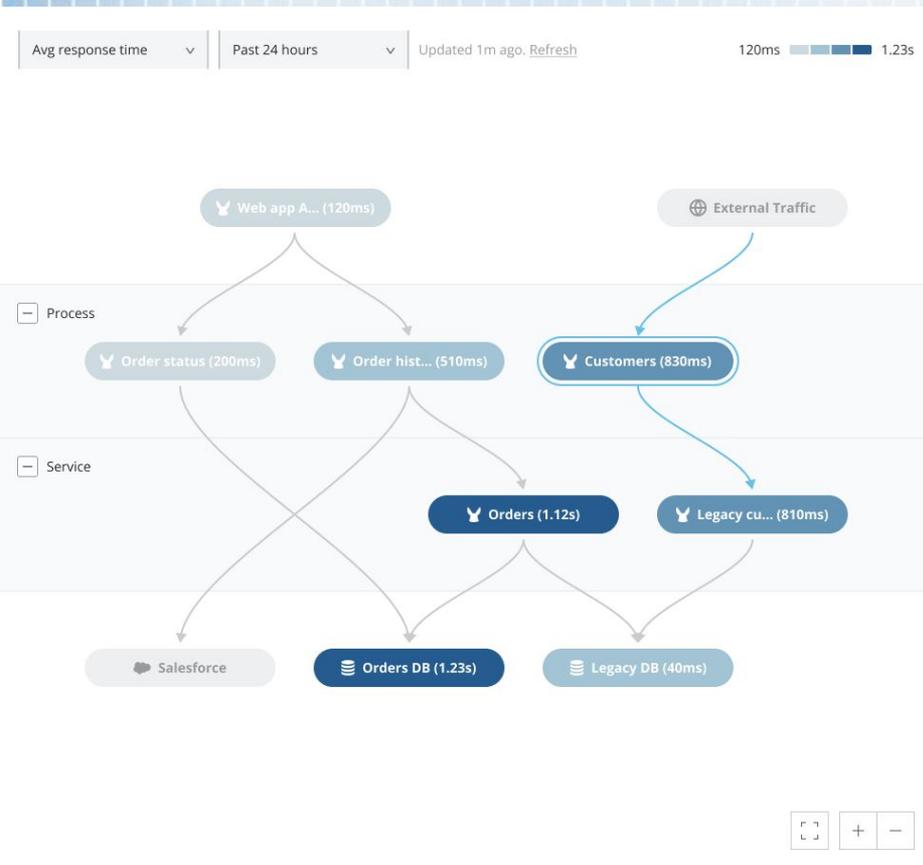
The screenshot displays the API Manager interface for 'American Flight - E2E v2'. The left sidebar contains navigation options: SANDBOX, API Administration, Alerts, Client Applications, Policies, SLA Tiers, and Settings. The main content area shows the API status as 'Active' with version '2.0.0' and type 'RAML/OAS'. It lists two alerts:

Name	Type	Date modified	Date created	Enabled	
Request count alert threshold	Request Count	11/14/17 9:01 AM	11/14/17 9:01 AM	Yes	Edit Delete
Recipients	Pablo Luna		Severity	Warning	
Condition	When number of occurrences are greater than 4		Period	For at least 1 consecutive period(s) of 23 days	
Slow response threshold	Response Time	11/14/17 9:02 AM	11/14/17 9:02 AM	Yes	Edit Delete
Recipients	Pablo Luna		Severity	Warning	
Condition	When number of occurrences are greater than 5		Period	For at least 5 consecutive period(s) of 1 days	
Response time	For requests exceeding 342 Milliseconds				

Manage, Secure, and Govern your APIs from a single web interface

- Secure API Gateway
- Comprehensive Policy Library
- Integrated Access Management
- Tiered SLAs
- Proactive Alerts

Anypoint Visualizer



< Visualizer

Customers

Details

Layer	Process
Organization	my-org
Environment	my-env (Production)
Type	Mule app
Hostname	customers.my-org.cloud...
IP	205.13.238.139

Metrics summary [Dashboard](#) [Logs](#)

Errors	100
Avg response time	830ms
Avg throughput	1K TPS
Avg CPU utilization	20%
Avg memory utilization	30%

Response time

The line chart shows response time in milliseconds over time. The y-axis ranges from 0ms to 1.6s. The x-axis shows '16h ago' and '8h ago'. The response time starts at approximately 800ms at 16h ago, peaks at about 1.2s at 16h ago, drops to a low of about 400ms at 8h ago, and then rises back to about 800ms.

Visualize interactions between APIs

- Dependency Visualizations
- Visibility into business flows.
- Impact Analysis
- Change Management

FedRAMP Authorized



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MuleSoft - MuleSoft Government Cloud



FedRAMP Ready



FedRAMP In Process



FedRAMP Authorized

GSA

FedRAMP Authorized Since 07/31/2019

That's all great but how much does it cost?

Consumption based and purchased by the core

API's are run on Mule workers. Workers are available in several sizes:

- 0.1 vCores + 500 MB Heap Memory
- 0.2 vCores + 1 GB Heap Memory
- 1 vCores + 1.5 GB Heap Memory
- 2 vCores + 3.5 GB Heap Memory
- 4 vCores + 7.5 GB Heap Memory
- 8 vCores + 15 GB Heap Memory
- 16 Cores + 32 GB Heap Memory

Sizing is very important as is developing to scale properly. SLAs can help drive costs as well.

Questions?